REMARKS

Applicant has received and carefully reviewed the Final Action mailed November 3, 2003. Claims 30-41 and 43-53 are pending, with all claims rejected. Reconsideration and reexamination are respectfully requested.

In section 3 of the Final Action, the Examiner rejected claims 30, 32-41 and 43-53 under 35 U.S.C. §103(a) as being unpatentable over Cullis et al., U.S. Patent No. 4,305,640, in view of Meier, U.S. Patent No. 4,669,878. In particular, the Examiner stated:

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Meier to the teachings of Cullis in order to provide an improved system wherein the system can analyze the serum cell by controlling the intensity and the wavelength of the light beam.

Final Action at section 3, on page 3.

In the Examiner's response to Arguments, in section 5 of the Final Action, the Examiner stated:

> In this case, it would have been obvious to one of ordinary skill in the art at the time the invention was made to analyze sample such as serum, by controlling the intensity and the wavelength of the light beam as discussed in paragraph 3 above.

It appears, then, that the Examiner's position is that it would have been obvious to modify the intensity of radiation applied by Cullis et al. to reduce the intensity to a level allowing for analysis of serum or other biological samples.

Cullis et al. note the intensities used in their annealing process as follows:

> Examples of materials that can be laser annealed are ion implanted silicon germanium or diamond where the ions are implanted by conventional techniques to a typical depth of about 0.2 μm. The dopant ions may be phosphorus, boron arsenic, aluminium, gallium, indium, copper, iron, nickel, gold and platinum. The laser power received on the substrate for single shot annealing is about 0.5 to 3 Joule/cm^2 for about 30 nano secs to anneal to a depth of about less than 1μm. For repetitive laser firing onto a spot the laser power may be reduced below 0.5 Joule/cm^2. This may not melt the amorphous layer but heat it sufficiently to cause recrystallization after repeated heating. Resolidification of a melted substrate takes place in about 1 μs.

Cullis et al. at column 2, line 58 through column 3, line 3. Converting the energy delivered, even assuming the low suggestion of 0.5 Joule/cm^2 delivered in a 30 nanosecond shot to Watts/m^2 (the

units used, for example, in Figure 22 of the present disclosure), requires solving the following formula:

$$\frac{X.Watts}{Meter^2} * 30.ns = \frac{0.5.Joules}{Centimeter^2}$$

Then, solving for X:

$$X.Watts = \frac{0.5.Joules}{Centimeter^2} * \frac{1}{30.ns} * \left(\frac{100.Centimeters}{1.Meter}\right)^2 * 1.meter^2$$

which yields a result for X in the range of $1.67*10^{11}$ Watts per meter. This is a result that is at least six orders of magnitude greater than the intensity used for spectrographic analysis as illustrated in the graphs included in the Figures of the present invention, which do not exceed 10^5 Watts per meter.

The intensities suggested by Cullis et al. are in agreement with the method used. Cullis et al. apply radiation in short bursts using Q-switching, as noted at column 2, lines 4-11. Q-switching is explained in the attached appendix, taken from Yariv, Optical Electronics in Modern Communication 5th Ed., an optics text. In particular, "The technique 'Q-switching' is used to obtain intense and short bursts of oscillation from lasers." Yariv at 227, section 6.9. It is believed that the above calculation does not mischaracterize or misconstrue Cullis et al., and that the magnitudes noted by Cullis et al. would be suitable for the intended purpose of annealing.

The reason such high intensity is required for the invention of Cullis et al. is that annealing is desired, causing crystalline modification of the amorphous substrate materials after ion implantation. Reducing the intensity by several orders of magnitude, as suggested by the Examiner, would render the device suggested by Cullis et al. highly unsuitable for its intended purpose of annealing.

MPEP 2143.01 states:

> If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In light of the above remarks, it is believed that the proposed modification of Cullis et al. would not be obvious to one of skill in the art as there is no suggestion or motivation to make the proposed modification. As such, Applicant believes claims 30, 31-40, and 43-53 are clearly patentable over the cited combination.

In section 4 of the Final Action, the Examiner rejected claim 31 under 35 U.S.C. §103(a) as being unpatentable over Cullis et al. in view of Meier, as applied to claim 30, and further in view of Friedman et al., U.S. Patent No. 5,290,169. It appears the Examiner cites Friedman et al. for the purpose of illustrating a tungsten-halogen lamp. However, Friedman et al. do not appear to overcome the unsuitability of the proposed modification of Cullis et al. stated by the Examiner. Therefore, Applicant believes the cited combination is impermissible, and claim 31 is likewise patentable.

Reexamination and reconsideration are respectfully requested. It is respectfully submitted that all pending claims are now in condition for allowance. Issuance of a Notice of Allowance in due course is requested. If a telephone conference might be of assistance, please contact the undersigned attorney at (612) 677-9050.

Respectfully submitted,

Robert D. Johnson

By his Attorney,

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David M. Crompton, Reg. No. 36,772
CROMPTON, SEAGER & TUFTE, LLC
1221 Nicollet Avenue, Suite 800
Minneapolis, MN 55403-2420
Telephone: (612) 677-9050
Facsimile: (612) 359-9349